

Courtesy of Portland Public Schools

# Effects of Dual-Language Immersion in Portland Public Schools

Jennifer L. Steele and Michael Bacon (Presenters)  
Robert O. Slater, Jennifer Li, Trey Miller,  
Gema Zamarro, Susan Burkhauser  
Oct. 2016

# About the study

- Partnership of 3 organizations
- 4-year study (2012 – 2016) supported by the U.S. Department of Education's Institute of Education Sciences  
Grant # *R305E120003*



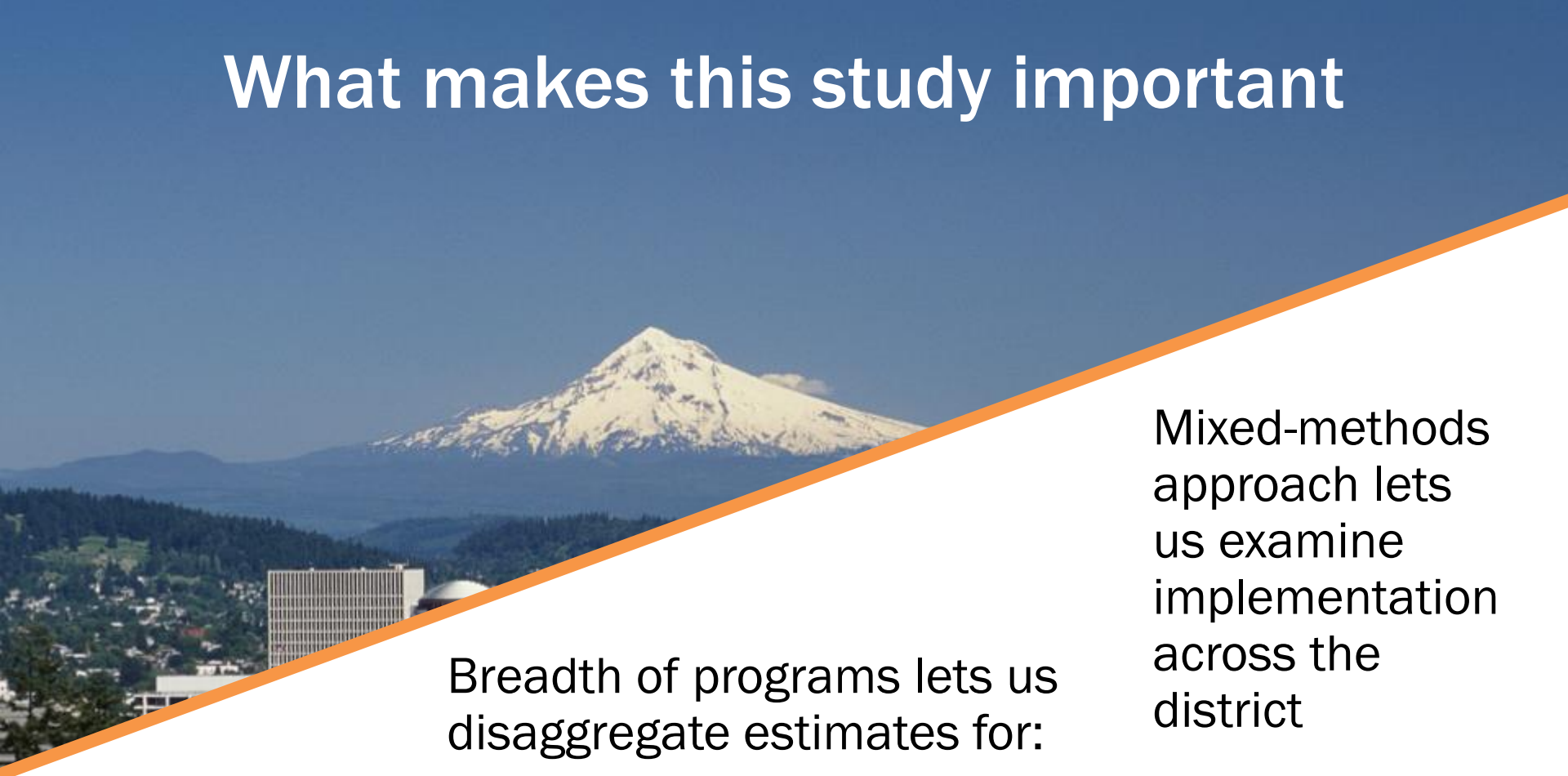


# What makes this study important

Portland's lottery system minimizes selection bias, letting us estimate **causal** effects of immersion programs



# What makes this study important



Mixed-methods approach lets us examine implementation across the district

Breadth of programs lets us disaggregate estimates for:

- 19 schools
  - 10 ES
  - 5 MS
  - 4 HS
- Native vs. non-native English speakers
- 2-way and 1-way programs
- Spanish vs. other languages

# Portland's program at a glance

**≈46,000**  
students  
districtwide

**≈10% DLI**  
in 2014-15



Japanese  
Mandarin  
Russian  
Spanish  
Vietnamese



Elementary  
schools

**15**

Middle schools

**5**

High schools

**6**

# Outline

- Study Context and Motivation
- Empirical Strategy
- Student Achievement Effects
- Principals' Perspectives
- What's Next for Immersion in Portland

# We examine 7 cohorts of students

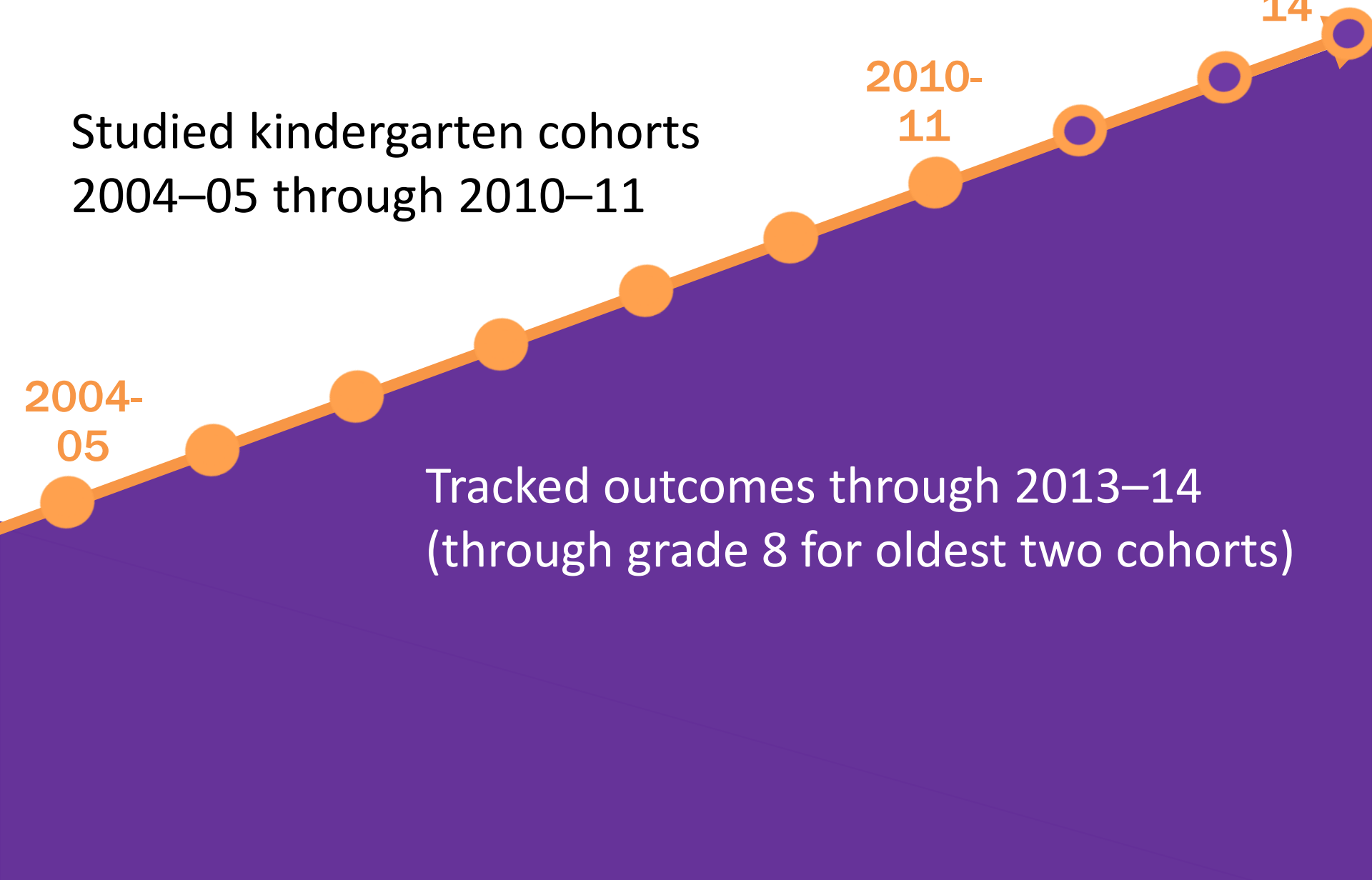
Studied kindergarten cohorts  
2004–05 through 2010–11

2004-  
05

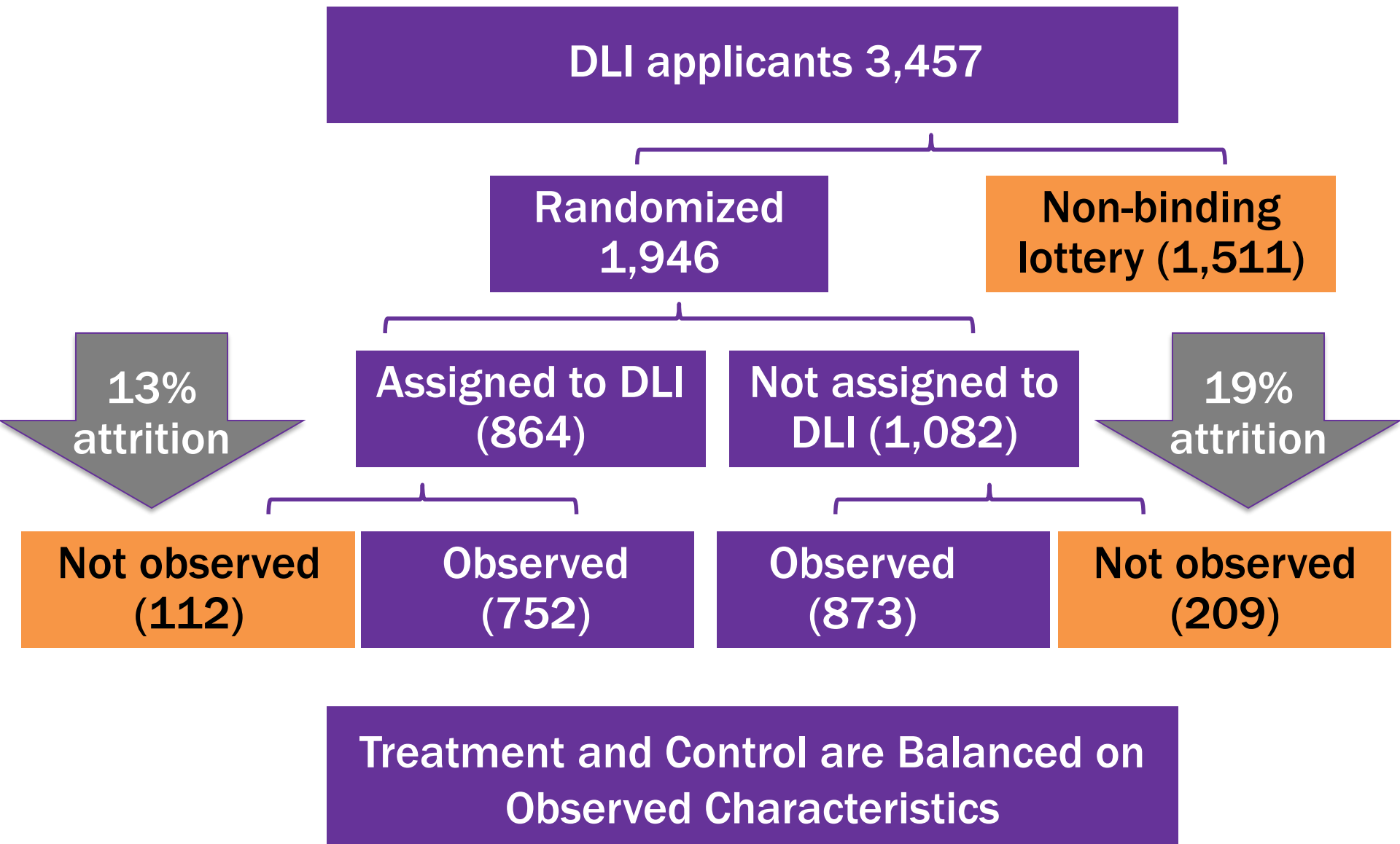
2010-  
11

2013-  
14

Tracked outcomes through 2013–14  
(through grade 8 for oldest two cohorts)



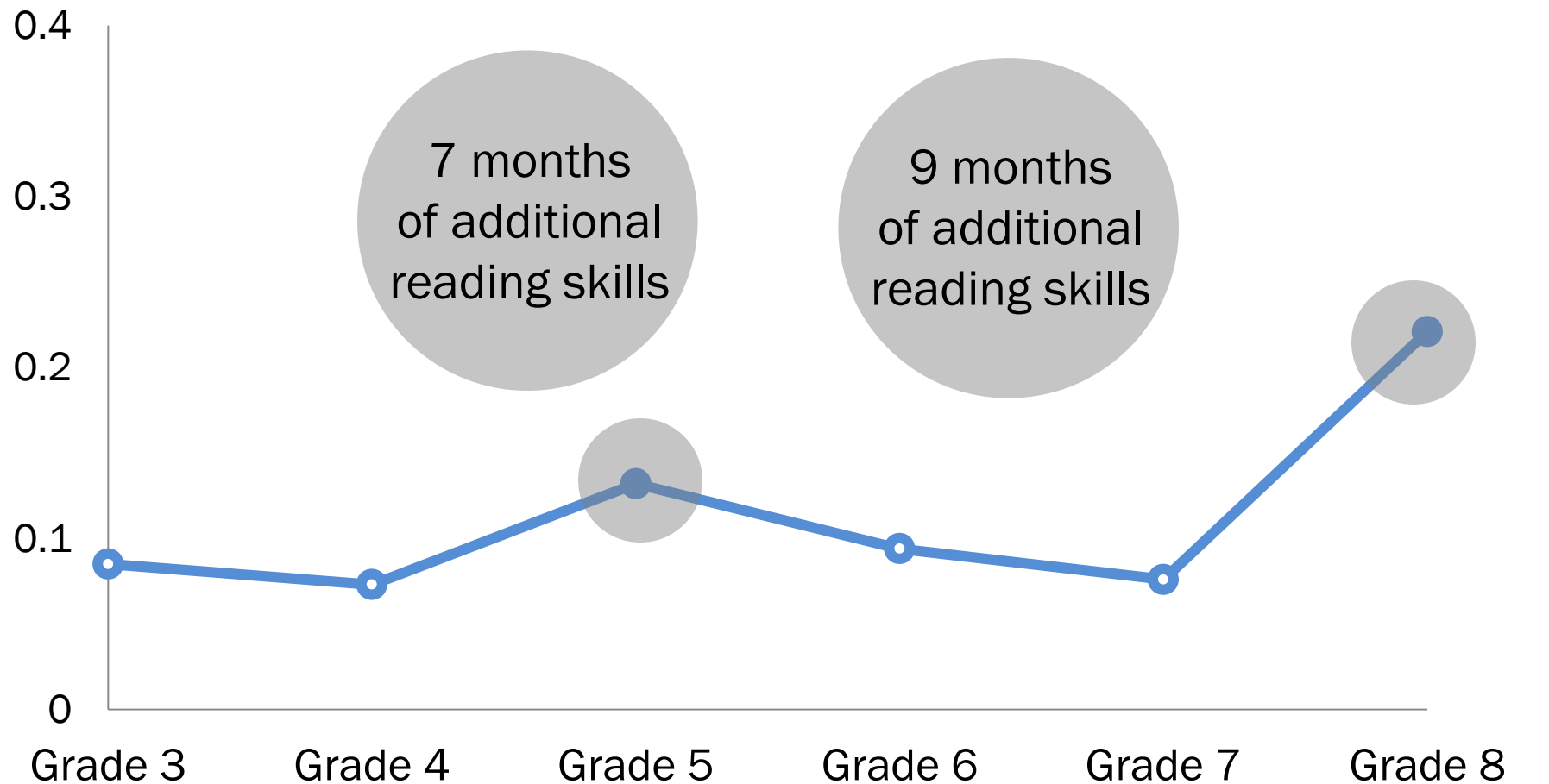
# We focused on randomized lottery applicants





# Lottery estimates in reading were positive and significant in grades 5 and 8

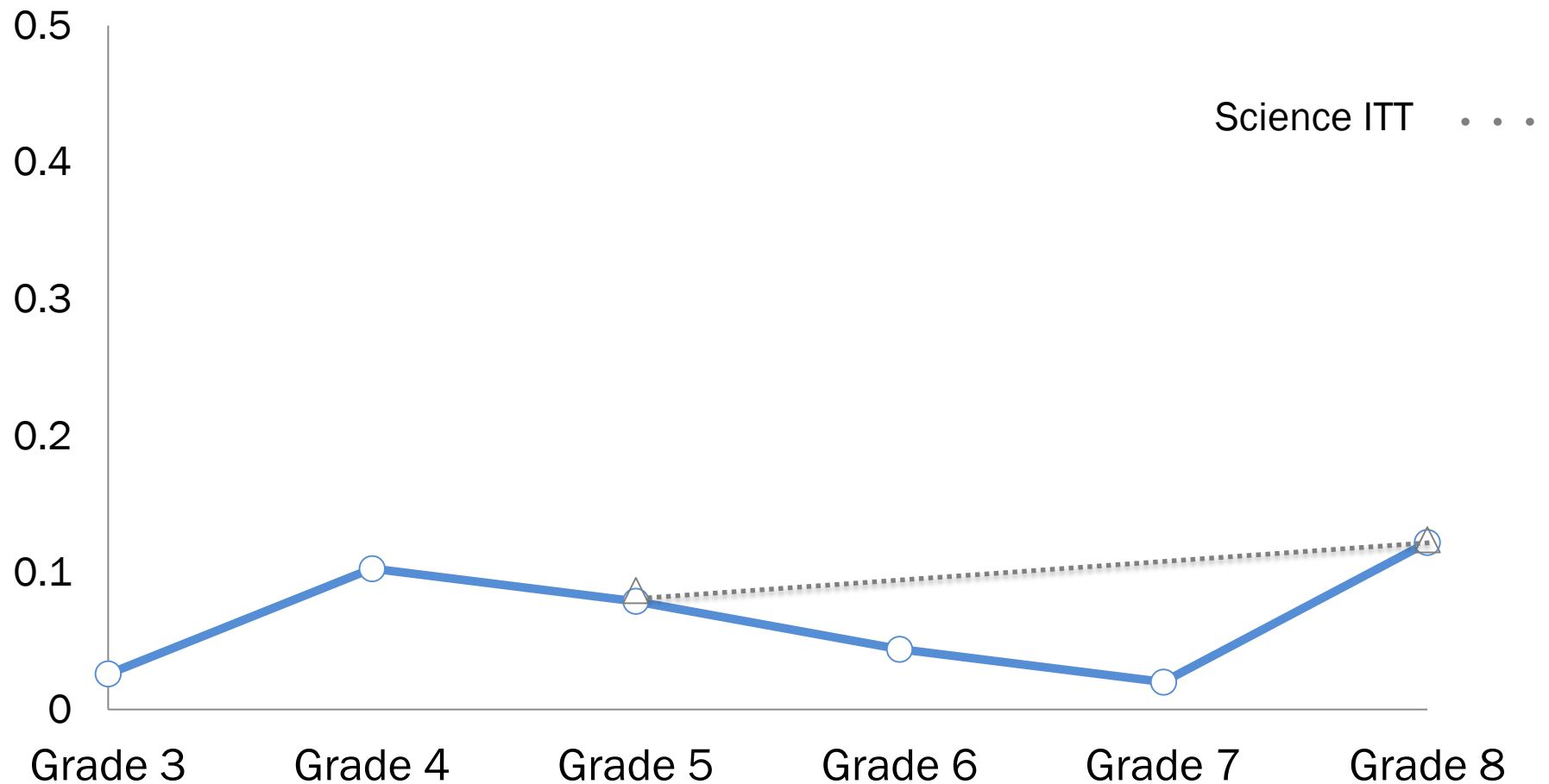
Estimated effects  
(SD units)



Solid marks: Significant at 5%    Hollow marks: Not statistically significant

# Lottery estimates in math and science were not statistically distinguishable from zero


Estimated effects  
(SD units)



Solid marks: Significant at 5%    Hollow marks: Not statistically significant

# Estimates did not differ significantly by program type or native language status

Reading, math, and science estimates were **statistically similar** for:

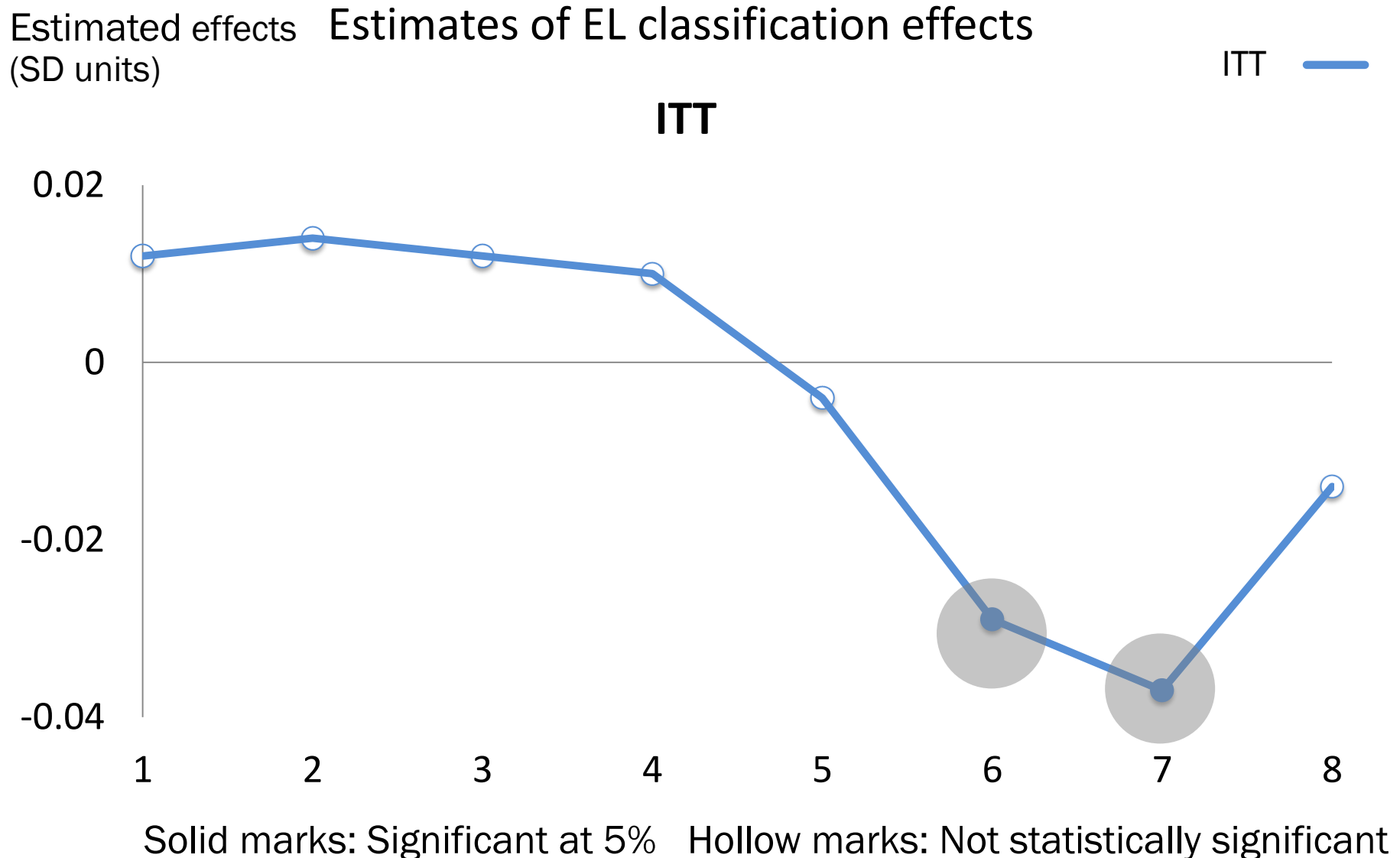
|   |  |   |
|---|--|---|
| Two-way   | Vs.<br> | One-way programs  |
| Spanish   |  | Other languages (Mandarin, Japanese, Russian)                 |
| English learners  |  | Native speakers of other languages                            |
| Students whose native language matches partner language |  | Students whose native language doesn't match partner language |

¡Hola!

¡Hola!

For students whose **native language matches partner language**, reading effects appeared as high as or higher than for native English speakers

# Students randomly assigned to immersion were less likely to be EL by grades 5 & 6



# Immersion students reach intermediate partner language proficiency by grade 8

8 Advanced mid

7 Advanced low

6 Intermediate high

5 Intermediate mid

4 Intermediate low

3 Novice high

2 Novice mid

1 Novice low

0

Grade

4

7

8

3

4

5

7

8

3

4

5

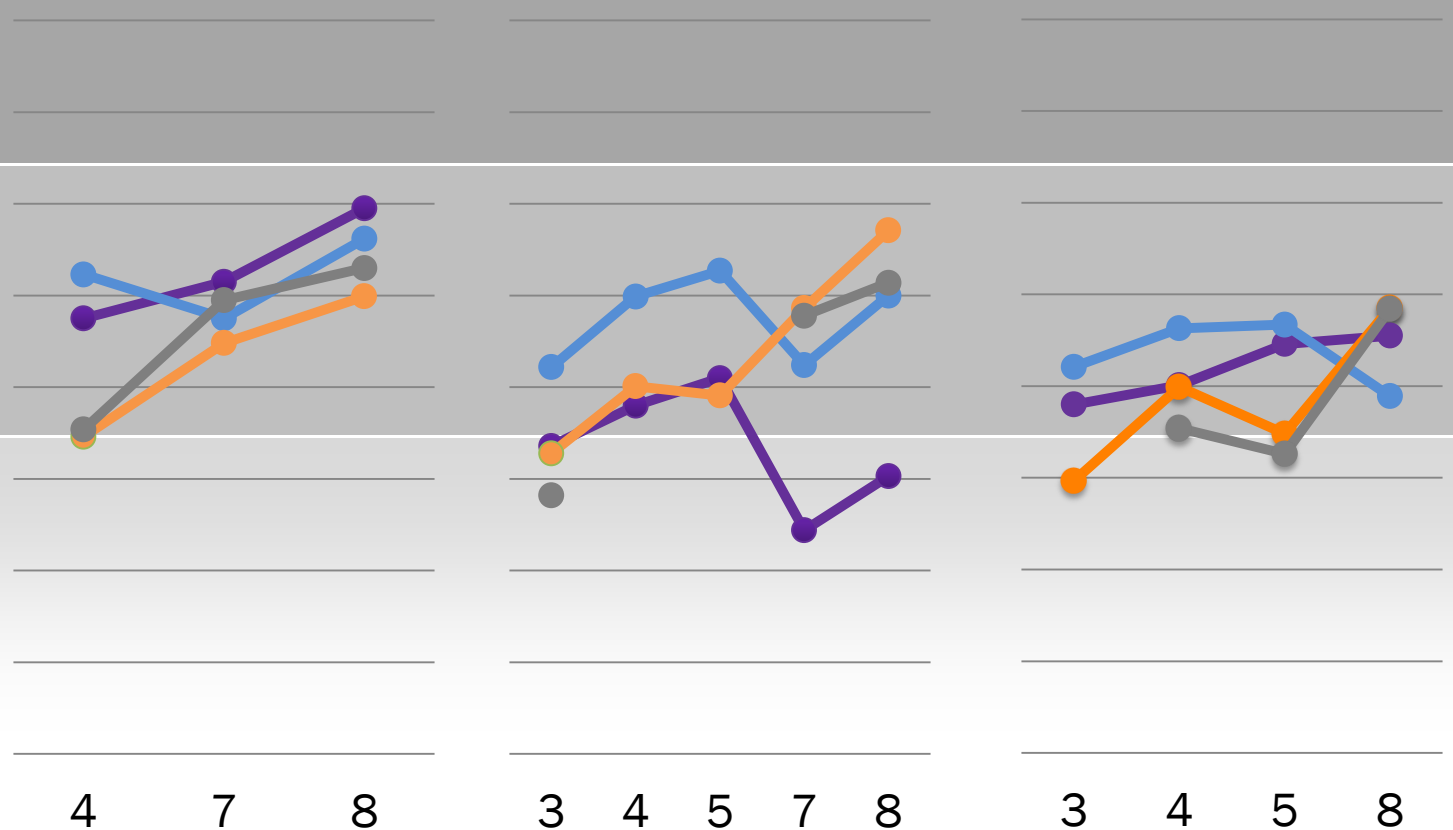
8

Reading ———  
Listening ———  
Speaking ———  
Writing ———

**Spanish**  
(n=701)

**Mandarin**  
(n=235)

**Japanese**  
(n=323)





# We collected feedback from principals



**Year 1**

Interviewed  
**17** principals

**Year 2**

Interviewed  
**15** principals

## Key topics

- Teacher quality
- Resources

# We collected feedback from principals

- Limited number of licensed candidates with adequate language proficiency
  - Even greater concern in middle and high schools
- Competition for qualified teachers
- Need to hire freely, rather than seniority-based
- Principals emphasized the link between teacher quality and the success of the immersion program
  - Families tend to opt out when dissatisfied with teaching quality

# Recap and implications

## Students randomly assigned to immersion:

Outperformed their peers in **English reading** in grades 5 and 8, with no detriment to math or science skills



Had lower ELL classification rates by 6th grade

Reached **intermediate** levels of partner-language proficiency by grade 8



But effective replication depends on maintenance of **quality**, including attention to teacher quality and instructional opportunities for language use

# What Is Next for DLI in Portland?

- Paradigm Shift:  
Why we do DLI
- Expansion
- Teacher Professional  
Development



# Paradigm Shift





# Stumbling in the Right Direction...


- PPS Equity Plan Priority Strategy #4 states “Provide instruction for emerging bilingual students in their native language through dual language programs where we have a critical mass of native speakers.” (January 2014)
- ***Goal of DLI:*** Same as district – close the opportunity gap for Historically Underserved students
- ***Strategy:*** Dual Language

# Stumbling in the Right Direction

## Lottery and Student Recruitment

- set aside slots for native speakers in every program
- held spots for native speakers
- set lottery slots that allow for native speakers who are late arrivals
- removed testing for native speakers
- provided transportation
- removed “mandatory” meeting
- Community Agents for recruitment of native speakers
- provided PD for Head Start Community Agents
- adjusted wait lists

# Stumbling in the Right Direction...

- Expanding Access:
  - % of ESL students in DLI at Kinder programs climbed from 26% to 37% to 42%
  - % of DLI at Kinder who are Black climbed from 3.77% to 8.25%
  - Native Language Literacy classrooms in Chinese, Spanish and Somali 
  - 3 PreK classrooms in Spanish
- Mainstream Paradigm Shift: No more ELA Adoption Adopt in all 6 languages

# Expansion

- Annual Expansion Committee:
  - Critical Mass of Emerging Bilinguals
  - Achievement Gap
  - Opportunities (Arabic)
- Barriers:
  - Politics (Developing and Applying Equity Lens)
  - Space
  - Qualified and Certified Teachers

# Teacher Development

- “Bilingual Teacher Shortage”
- Collaboration with ODE, TSPC and PSU
- Change with ESSA for HQ
- Dual Language Teacher Fellows
- Homegrown
- 3 Week Summer Institute





# More Information

Jennifer Steele, steele@american.edu

Michael Bacon, mbacon@pps.net

Robert Slater, rslater@americancouncils.org

## Full-Text Links and Requests

[https://www.researchgate.net/profile/Jennifer\\_Steele6/contributions](https://www.researchgate.net/profile/Jennifer_Steele6/contributions)

## Citations

Steele, J. L., Slater, R. O., Zamarro, G., Miller, T., Li, J., Burkhauser, S., & Bacon, M. (In Press). The effects of dual-language immersion programs on student achievement: Evidence from lottery data. *American Educational Research Journal*.

Burkhauser, S., Steele, J. L., Li, J., Slater, R. O., Bacon, M., & Miller, T. (2016). Partner-language learning trajectories in dual-language immersion: Evidence from an urban district. *Foreign Language Annals*. DOI: 10.1111/flan.12218.

Li, J., Steele, J., Slater, R., Bacon, M., & Miller, T. (2015). Teaching practices and language use in two-way dual language immersion programs in a large public school district. *International Multilingual Research Journal*, 10(1), 31-43.